

REMARKS

Applicant thanks Examiner for acknowledging receipt of foreign priority document, Japanese Application No. JP2002-200030, that has been submitted pursuant to 35 U.S.C. § 119.

Applicant respectfully requests reconsideration of Examiner's rejection of claims 1 - 4 under 35 U.S.C. §102(b) and 35 U.S.C. §103(a). Examiner has rejected these claims in view of the cited prior art patents of *Ishikawa et al.* (U.S. Patent No. 5,795,642) and *Meguro et al* (U.S. Patent App. No. 2002/0018914). Applicant asserts that both patents fail to teach or suggest Applicant's currently claimed invention for the same reason. More specifically, both *Ishikawa* and *Meguro* teach a magnetic recording layer formed using a magnetic powder mixed with a binder agent, and a foundation layer formed using a nonmagnetic powder mixed with a binder. This technology is ineffective at the thickness levels and sensitivity levels to which Applicant's currently claimed invention is directed (See top of page 2 of Applicant's disclosure). In the abstract of the *Ishikawa* reference, the Applicant teaches the use of a "magnetic layer containing a ferromagnetic metal powder and a binder." Suitable binders are disclosed as "thermoplastic resins, thermosetting resins, and reactive resins." (*Ishikawa*: Column 6, lines 45 – 47 and Column 11, lines 6 – 10). The requirement of a non-magnetic resin in the formation of a magnetic layer causes decreased density of magnetic material, and thereby decreased sensitivity and performance of the magnetic recording medium.

Applicant's invention, however, is directed to an improved magnetic recording medium in which the magnetic layer and the foundation layer are formed by a vacuum thin film process. Counter to Examiner's remarks in his last action, the resultant structure is not the same. Rather, the use of a vacuum thin-film process imparts an improved device structure and improved device characteristics over the prior art. More specifically, because the thin-film forming technique does not require the use of a non-magnetic binder, the density of magnetic materials in the magnetic layer of the device are measurably improved. As a result, sensitivity of the device is improved, and device dimensions can be further decreased over the prior art without a substantial loss in quality.

Applicant has conducted a thorough, complex analysis of the optimum thickness of a magnetic layer and the optimum thickness and composition of a foundation layer in order to obtain increased device performance of a recording medium through the use of a thin film forming technique. Applicant has discovered, for example, that the use of a SiN foundation layer at a thickness of 2 to 50nm along with a magnetic layer at a thickness of less than 55nm, both formed by thin film technique, provide for optimum device characteristics of a recording medium, and allows for decreased device dimensions without sacrificing recording medium performance (see, for example, Claim 1). Neither reference cited by the Examiner teaches or suggests such a result. In light of the foregoing, Applicant respectfully requests Examiner withdraw his §102 and §103 rejections, and allow all claims.

Appl. No. 10/613,156
Amdt. Dated December 22, 2004
Reply to Office Action of September 22, 2004

Respectfully submitted,

Date:

12/22/04

(Reg. #37,607)

Robert J. Depke

HOLLAND & KNIGHT LLC

131 S. Dearborn, 30th Floor

Chicago, Illinois 60603

Tel: (312) 263-3600

Attorney for Applicant